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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,711	11/19/2003	Gordon R. Hakola	B-100	7071
7590	06/14/2006		EXAMINER	
HERBERT E. HAYNES JR. 2383 GLENVIEW DR. SIERRA VISTA, AZ 85650				JOERGER, KAITLIN S
		ART UNIT	PAPER NUMBER	3653

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/716,711	HAKOLA, GORDON R.
Examiner	Art Unit	
Kaitlin S. Joerger	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

- 1) Responsive to communication(s) filed on 17 April 2006.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

- 4) Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 10-42 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4, 7 and 8 is/are rejected.
- 7) Claim(s) 5, 6 and 9 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 November 2003 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Day et al.

Day et al. teaches a liner system for resisting the abrasive forces of a slurry being supplied to the upper end of a materials classifying cyclone comprising: a) a cyclone inlet housing including a cylindrical head section and a feed duct for supplying the slurry to the head section, see figure 1 and column 3, lines 63+; and at least a pair of head section abrasion resistant liners, 24 and 26, arranged in an end-to-end relationship with each other so as to line the cylindrical interior surface of the head section of the inlet housing, see column 4, lines 6+.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Day et al. in view of Malina.

Day et al. teaches all of the features of the claimed invention except for a feed duct liner of abrasion resistant material in the feed duct of said inlet housing. Malina teaches a liner system for a cyclone that can include a feed duct liner of abrasion resistant material in the feed duct. See column 4, lines 41+.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to line the feed duct, 76, of Day et al. with a liner of abrasion resistant material, as taught by Malina in order to protect the feed duct from excessive wear as a result of the flow of abrasive material through the feed duct.

Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Day et al. in view of Malina as applied to claim 2 above, and further in view of Hakola.

Day et al. teaches a liner system that comprises a rigid substrate, 10; and an abrasion resistant liner, 26, bonded to the inwardly facing surface of each of said rigid substrates. The liner system includes attachment means for demountably holding said head section liners in contiguous engagement with the inner wall of the head section, see column 4, lines 6+. Malina teaches a demountably attached feed duct liner. The abrasion resistant material is an elastomer, see column 5, lines 60+. The rigid substrate, which is the housing of the cyclone, is metal.

Neither Day et al. nor Malina teach that the abrasion resistant material is bonded to the rigid substrate, but Hakola does teach this, see the abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made bond the abrasion resistant liner to the substrate, as taught by Hakola, in order to increase the structural strength of the liner and make it even more resistant to wear.

***Response to Arguments***

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

The new reference, Day et al., has been applied, and this reference clearly teaches a pair of head section abrasion resistant liners, as fully discussed above.

Applicant's arguments with respect to claim 2 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that Malina did not teach a rigid substrate having an abrasion resistant material bonded to it. The examiner applied new reference Hakola, which teaches the feature of bonding an abrasion resistant liner to a rigid substrate. In addition, new reference, Day et al., teaches an abrasion resistant liner, 26, and a rigid substrate, 10, which is the cyclone housing and serves to support the abrasion resistant liner.

***Allowable Subject Matter***

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 9 claims that the head section and feed duct of the inlet housing have open tops. The examiner was able to find several examples among the prior art that teach a head section that has an open top, including the applied reference, Malina and Day et al. However, the examiner was

unable to find a teaching of a feed duct with an open top, the feed ducts of the prior art are integrally formed with the cover plate of the cyclones and do not have an open top. Therefore, the examiner has found this feature to be allowable over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaitlin S. Joerger whose telephone number is 571-272-6938. The examiner can normally be reached on Monday - Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ksj  
  
9 June 2006



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